

2022

WATER CONSERVATION PLAN



Greg Anderson

KEARNS

IMPROVEMENT

DISTRICT

5/10/2022

Kearns Improvement District 2022 Water Conservation Plan Update

TABLE OF CONTENTS

TABLE OF CONTENTS	1
CHAPTER 1 - INTRODUCTION	2
Boundary Map	4
CHAPTER 2 - EXISTING AND FUTURE WATER USE	5
Retail Water Deliveries	5
Water Supply	5
Retail Water Deliveries	6
Population Projections	6
Per Capita Water Use	8
Projected Costs and the Value of Deferring Water Resource Development Projects	11
CHAPTER 3 - SYSTEM WATER LOSS CONTROL	13
Utah Water System Efficiency and Water Loss Control Program	13
CHAPTER 4 - CURRENT WATER CONSERVATION ACTIVITIES	15
Water Efficiency Standards	15
Water Conservation Rate Structure	15
Ongoing Conservation Programs	16
Water Conservation Programs Coordinator	17
Public Information and Education Campaign	17
Conservation Demonstration Garden	19
Low Flow Toilet Replacement Program	20
Conservation Messaging On Monthly Bills	20
Drought Level Water Conservation Policy	21
Cost Effectiveness of Existing Conservation Programs	23
CHAPTER 5 - CONSERVATION PRACTICES - THE NEXT 5 YEARS SYNOPSIS	25
KID Conservation Committee	25
Goals	25
Water Conservation Rate Structure	25
Best Management Practices Conservation Program	25
Water Efficiency Standards	25
Leak Detection and Replacement Program	26
Advanced Metering Infrastructure	26

APPENDIX

CHAPTER 1

INTRODUCTION

Purpose of the 2022 Plan Update

The purpose for the 2022 Water Conservation Plan Update (WPC Update) is to provide a planning document for the Kearns Improvement District (KID) for the next five years to guide the water conservation program for the District.

Background

In 1998 the Utah State Legislature passed the “Water Conservation Plan Act”, House Bill 418. The law required culinary water providers and conservancy districts to prepare a water conservation plan and submit the plan to the Utah Division of Water Resources (Water Resources) by April 1, 1999. The law also requires updates be submitted to Water Resources every five years. The act was amended in the 2004 session of the Utah Legislature (House Bill 71). The act is codified as Section 73-10-32 of the Utah State Code.

The law states that:

- (2)(a) Each water conservation plan shall contain:
- i. *A clearly stated overall water use reduction goal and an implementation plan for each of the water conservation measures it chooses to use, including a timeline for action and an evaluation process to measure progress.*
 - ii. *A requirement that each water conservancy district and retail water provider devote part of at least on regular meeting every five years of its governing body to a discussion and formal adoption of the water conservation plan and allow public comment on it.*
 - iii. *A requirement that a notification procedure be implemented that includes the delivery of the water conservation plan to the media and to the governing body of each municipality and county served by the water conservancy district or retail water provider; and*
 - iv. *A copy of the minutes of the meeting and the notification procedure required in Subsections (2)(a)(ii) and (iii) which shall be added as an appendix to the plan.*

As required by the act, the Kearns Improvement District has submitted four previous conservation plans. The 2022 Water Conservation plan Update satisfies the requirements of the Water Conservation Plan Act as the update that is required every five years, and contains the elements set forth in the law. The appendix of this WCP Update contains recently adopted JVWCD Water Efficiency Standards, the Resolution of Adoption of the 2022 Conservation Plan Update, and a copy of the public notice for the meeting. The Appendix also contains the minutes of the public meeting during which the public hearing was held where public comment was received and a copy of all written comments, both mailed and emailed, by the comment deadline.

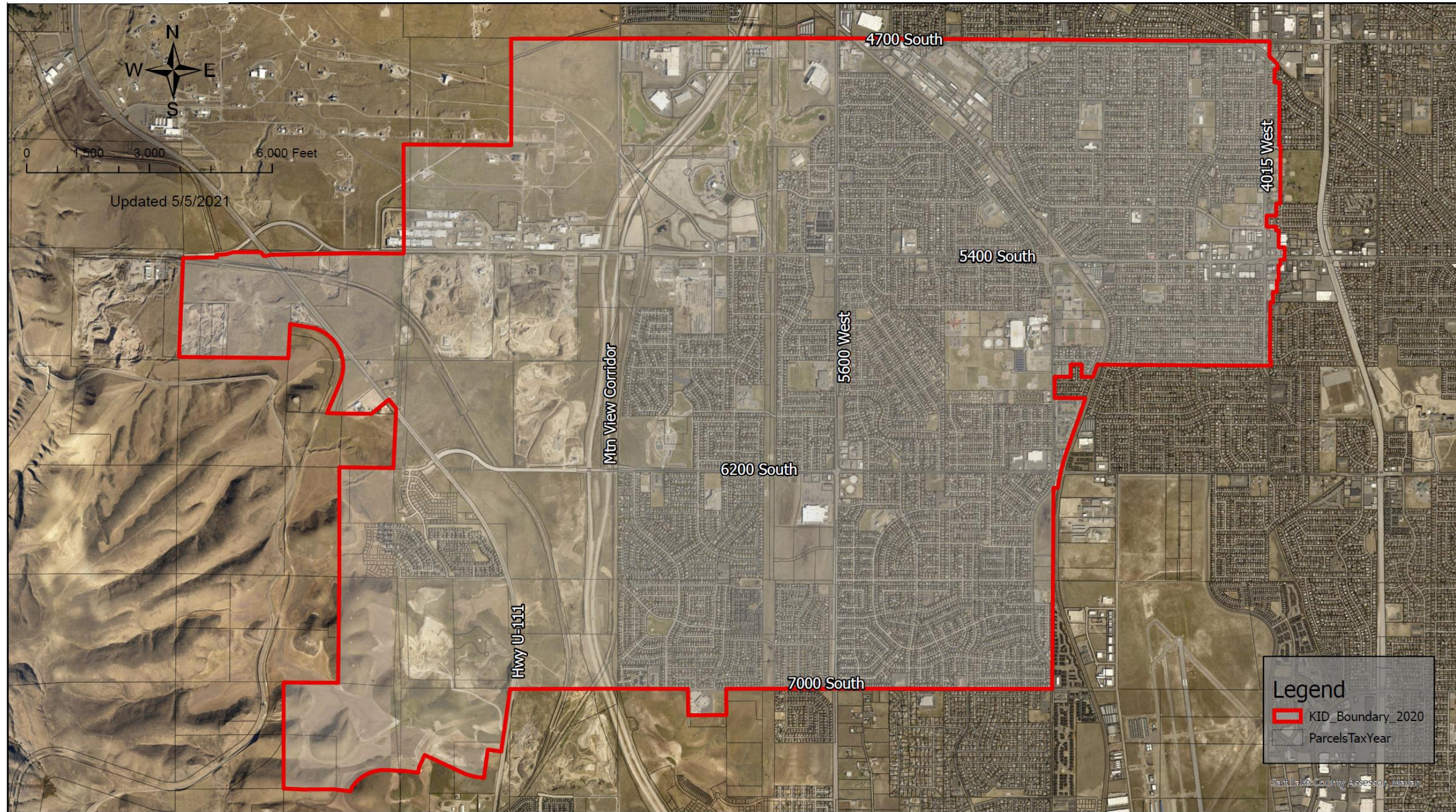
Description of the Kearns Improvement District

The Kearns Improvement District (KID) is a water and sewer utility with its office located in the Kearns Metro Township, Utah and is a political subdivision of the State of Utah with specific statutory powers. It is governed by an elected Board of Trustees. The District’s boundaries are approximately between 4700 South to 7000 South and 4015 West to the foothills of the Rio Tinto/Kennecott property. KID currently has 14,286

water connections and serves approximately 54,300 residents in the Kearns Metro Township, a portion of West Valley City, a portion of West Jordan City, and a small part of Taylorsville City.

The District was established in 1957 to provide water and sewer services to the customers in the area following the closing of the Camp Kearns Army Base. The number of water connections has grown from 3,100 in 1957 to over 14,200 in 2021.

Kearns Improvement District Boundary Map



CHAPTER 2 EXISTING AND FUTURE WATER USE

RETAIL WATER DELIVERIES

The Kearns Improvement District currently has 14,286 water connections and serves approximately 54,300 residents in the Kearns Metro Township, a portion of West Valley City, a portion of West Jordan City, and a small part of Taylorsville City. At the end of 2021 the retail customer connections are as shown in Table 2.1.

Table 2.1
Kearns Improvement District
Retail Customer Connections
(December 2021)

Connection Type	Connections
Residential	13,918
Commercial	209
Industrial	19
Institutional	140
TOTAL	14,286

Water Supply

Currently the Kearns Improvement District purchases approximately ninety three percent (93%) of their retail water sales from the Jordan Valley Water Conservancy District (JVWCD). The remaining seven percent (7%) is supplied from twelve (12) KID owned and operated deep wells. The table below shows the JVWCD wholesale water supply contract plus the average KID deep well production amounts.

Table 2.2
JVWCD Wholesale Water Supply Contract + Ave. Deep Well Production

JVWCD - Wholesale Water Supply Contract					AVG. KID Deep Well Production	Total Water Supply Amount Available
Year	Contract Amount (acft)	Allowed Increase	Total Amount (acft)	Total Amount (gal x 1000)	Total Amount (gal x 1000)	Total Amount (gal x 1000)
1999 - 2001	6,000	125%	7,500	2,443,886	327,807	2,771,693
2002 - 2021	7,000	125%	8,750	2,851,200	221,253	3,072,453
2022 - 2030	7,750	120%	9,300	3,030,418	221,253	3,251,671
2031 - 2040	8500	120%	10,200	3,323,685	221,253	3,544,938
2041 - 2055	9250	120%	11,100	3,616,951	221,253	3,838,204
2056 - 2065	9400	120%	11,280	3,675,334	221,253	3,896,857

Retail Water Deliveries

Table 2.3 shows the drinking water deliveries to its retail customers from the year 2000 thru 2021.

Table 2.3
KID Retail Service Water Deliveries
2000 thru 2021

Year	JVWCD Wholesale (AcFt)	JVWCD Wholesale (gal x 1000)	KID Deep Wells (AcFt)	KID Deep Wells (gal x 1000)	Total Amount (AcFt)	Total Amount (gal x 1000)
2000	8,821.31	2,874,436	1,279.87	417,047	10,101.18	3,291,484
2001	7,541.11	2,457,281	987.35	321,729	8,528.04	2,834,252
2002	7,746.64	2,524,254	322.68	105,146	8,069.32	2,629,399
2003	6,792.07	2,213,206	887.88	289,314	7,679.94	2,502,519
2004	7,545.00	2,458,549	388.24	126,509	7,933.24	2,585,058
2005	7,711.99	2,512,963	101.89	33,201	7,813.88	2,546,164
2006	8,551.07	2,786,378	397.91	129,660	8,948.98	2,916,038
2007	9,241.00	3,011,193	595.78	194,136	9,836.78	3,205,329
2008	8,224.00	2,679,802	626.16	204,035	8,850.16	2,883,837
2009	7,698.86	2,508,685	565.08	184,132	8,263.94	2,692,817
2010	7,661.04	2,496,361	566.75	184,676	8,227.79	2,681,037
2011	7,350.91	2,395,305	467.80	152,433	7,818.71	2,547,738
2012	8,709.00	2,837,840	474.34	154,564	9,183.34	2,992,404
2013	7,958.00	2,593,126	603.41	196,622	8,561.41	2,789,748
2014	7,336.00	2,390,446	575.31	187,466	7,911.31	2,577,912
2015	7,297.38	2,377,862	986.52	321,459	8,283.90	2,699,321
2016	7,973.00	2,598,013	881.10	287,108	8,854.10	2,885,121
2017	8,176.00	2,664,161	397.16	129,415	8,573.16	2,793,576
2018	8,335.20	2,716,037	457.89	149,204	8,793.09	2,865,241
2019	7,335.58	2,390,309	571.64	186,270	7,907.22	2,576,579
2020	9,119.56	2,971,622	440.57	143,560	9,560.13	3,115,182
2021	7,738.94	2,521,745	564.46	183,930	8,303.40	2,705,675

Population Projections

The Kearns Improvement District retained Bowen Collins and Associates (BC&A) to prepare an updated Capital Facilities Plans (CFP's) for the District's water and wastewater systems. To accurately plan and budget for future improvements within the updated CFP, it is important to understand when and where growth is likely to occur. BC&A has prepared updated estimates of existing and future residential and non-residential development and has assembled growth projections for future development in the District.

Methodology

In order to hydraulically model the District's water and sewer systems, it is important to have accurate projections that represent both the quantity and distribution of water demands and sewer loads. The projections used were based on two factors: residential and non-residential growth projections. The methodology used to calculate these growth projections can be summarized as follows:

1. Define the service area
2. Within the service area, develop a number of smaller projection sub-areas using geographical information system (GIS) mapping. For this project, traffic analysis zones (TAZ) developed by the Wasatch Front Regional Council (WFRC) were used as the starting point for these smaller sub-areas.

If development in an area has been approved but not constructed, the sub-areas were divided to show those developments.

3. Project residential population growth for each projection sub-area based on existing and projected patterns of development.
4. Project non-residential development growth for each projection sub-area based on existing and projected patterns of employment.

Based on the analysis completed by BC&A the population projections are summarized and shown in the following Table 2.4 for the Kearns Improvement District.

KID Population Estimate and Projection Summary

Table 2.4

Year	Population	Average Annual Growth Rate	Employment Projection	Average Annual Growth Rate
2000	40,160			
2001	41,400	3.0%		
2002	42,680	3.0%		
2003	44,241	3.5%		
2004	44,938	1.6%		
2005	45,720	1.7%		
2006	46,372	1.4%		
2007	47,192	1.7%		
2008	47,632	0.9%		
2009	47,740	0.2%		
2010	47,884	0.3%		
2011	48,881	2.0%		
2012	49,879	2.0%		
2013	49,688	0.0%		
2014	50,096	0.8%		
2015	50,564	0.9%		
2016	50,900	0.7%		
2017	51,200	0.6%		
2018	51,520	0.6%		
2019	51,821	0.6%		
2020	53,396	2.9%		
2021	54,926	2.8%		
2025	56,091	2.0%	10,516	2.2%
2030	61,280	1.8%	10,952	0.8%
2035	65,509	1.3%	11,617	1.2%
2040	68,825	1.0%	11,977	0.6%
2045	71,345	0.7%	12,483	0.8%
2050	73,216	0.5%	13,282	1.2%
2055	74,581	0.4%	13,584	0.5%
2060	75,564	0.3%	13,885	0.4%
2065	76,266	0.2%	14,187	0.4%

Per Capita Water Use

Per capita water use is calculated by dividing total water deliveries by the population. Table 2.5 displays per capita water use in KID from 2000 through 2021. During the past 21 years the population served by the Kearns Improvement District has grown by over 14,000 while the total water deliveries have declined. Nationwide per capita water use has declined over that same period, but not to the extent it has declined within the Kearns Improvement District. It is clear that it is a result of the conservation effort that has been pursued by the District. The regional goal set by the State of Utah is 187gpcd, while the KID goal established in the year 2000 is 150gpcd. The five (5) year average is currently 147gpcd. As conservation efforts continue and water efficiency standards are adopted and implemented, it is anticipated that the District can realistically meet a per capita water use goal of 140gpcd. Since the year 2000, KID has saved 56,000 acre-feet of water and at today's cost this is equivalent to \$36,400,000 in savings to its customers.

Per Capita Water Use
Table 2.5

	Population	Total Water Amount (gal x 1000)	Per Capita Use (gpcd)	5-Year Ave Per Capita Use (gpcd)	Total Supply Available (1000 gal)	Excess Amount Available (1000 gal)	Notes
2000	40,160	3,291,484	225		2,771,693	(253,570)	JVWCD Contract
2001	41,400	2,834,252	188		2,771,693	(62,429)	
2002	42,680	2,629,399	169		3,072,453	396,757	JVWCD Contract 7000 AF + 25% + Wells
2003	44,241	2,502,519	155		3,072,453	562,820	"
2004	44,938	2,585,058	158	179	3,072,453	483,754	"
2005	45,720	2,546,164	153	164	3,072,453	519,026	"
2006	46,372	2,916,038	172	161	3,072,453	148,830	"
2007	47,192	3,205,329	186	165	3,072,453	(163,156)	"
2008	47,632	2,883,837	166	167	3,072,453	139,758	"
2009	47,740	2,692,817	155	166	3,072,453	347,873	"
2010	47,884	2,681,037	146	165	3,072,453	361,096	"
2011	48,881	2,547,738	143	159	3,072,453	524,719	"
2012	49,879	2,992,404	164	155	3,072,453	80,052	"
2013	49,688	2,789,748	154	152	3,072,453	282,888	"
2014	50,096	2,577,912	141	150	3,072,453	494,408	"
2015	50,564	2,699,321	146	150	3,072,453	373,097	"
2016	50,900	2,885,121	155	152	3,072,453	187,342	"
2017	51,200	2,793,576	149	149	3,072,453	278,880	"
2018	51,520	2,865,241	152	149	3,072,453	207,216	"
2019	51,821	2,576,579	136	148	3,072,453	495,877	"
2020	53,396	3,115,182	160	151	3,072,453	(42,719)	"

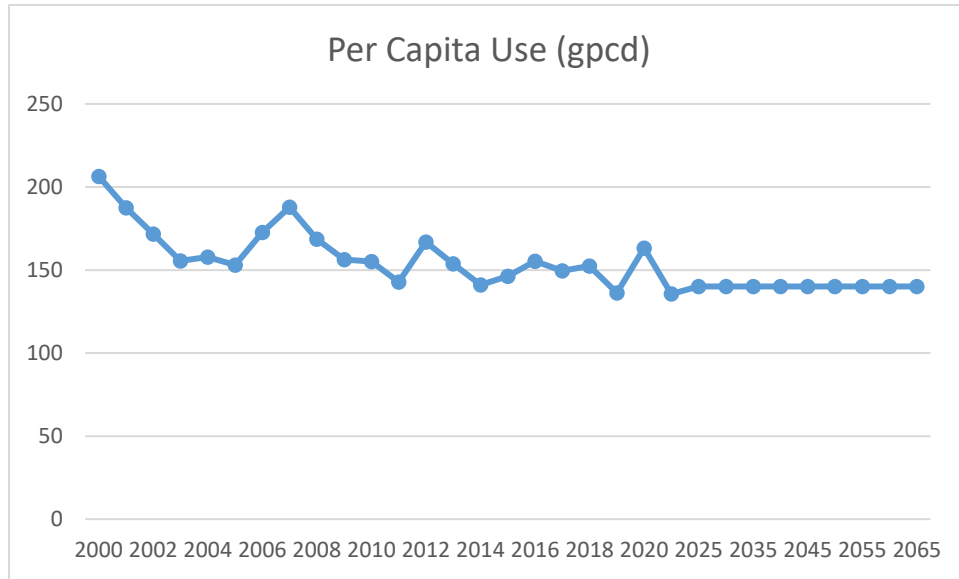
2021	54,926	2,705,675	135	147	3,072,453	371,656	JVWCD Contract 7000 AF + 25% + Wells
2025	56,091	2,866,250	140	146	3,251,671	385,421	JVWCD Contract 7750 AF + 20% + Wells
2030	61,280	3,131,408	140	140	3,251,671	120,263	"
2035	65,509	3,347,510	140	140	3,544,938	197,428	JVWCD Contract 8500 AF + 20% + Wells
2040	68,825	3,516,958	140	140	3,544,938	27,981	"
2045	71,345	3,645,730	140	140	3,838,204	192,475	JVWCD Contract 9250 AF + 20% + Wells
2050	73,216	3,741,338	140	140	3,838,204	96,866	"
2055	74,581	3,811,089	140	140	3,838,204	27,115	"
2060	75,564	3,861,320	140	140	3,896,857	35,537	JVWCD Contract 9400 AF + 20% + Wells
2065	76,266	3,897,193	140	140	3,896,857	(336)	"

**Water Supply and Use
Projected
Table 2.7**

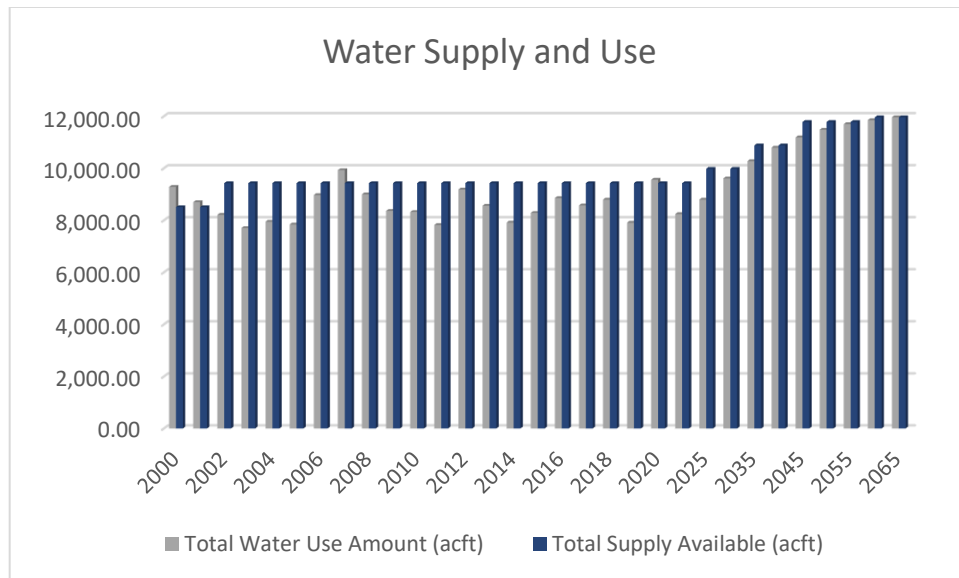
	Population	Total Water Amount (gal x 1000)	Per Capita Use (gpcd)	5-Year Ave Per Capita Use (gpcd)	Total Supply Available (1000 gal)	Excess Amount Available (1000 gal)	Notes
2025	56,091	2,866,250	140	145	3,251,671	385,421	JVWCD Contract 7750 AF + 20% + Wells
2030	61,280	3,131,408	140	143	3,251,671	120,263	"
2035	65,509	3,347,510	140	144	3,544,938	197,428	JVWCD Contract 8500 AF + 20% + Wells
2040	68,825	3,516,958	140	139	3,544,938	27,981	"
2045	71,345	3,645,730	140	140	3,838,204	192,475	JVWCD Contract 9250 AF + 20% + Wells
2050	73,216	3,741,338	140	140	3,838,204	96,866	"
2055	74,581	3,811,089	140	140	3,838,204	27,115	"
2060	75,564	3,861,320	140	140	3,896,857	35,537	JVWCD Contract 9400 AF + 20% + Wells
2065	76,266	3,897,193	140	140	3,896,857	(336)	"

Please see Chart 2.1 and Chart 2.2 that gives a graphical representation of the declining and projected per capita water use, and existing water use, and supply projected for the Kearns Improvement District through the year 2065.

**Per Capita Use
Existing & Projected Trend
Chart 2.1**



**Water Use and Supply
Existing & Projected Trend
Chart 2.2**



Projected Costs and the Value of Deferring Water Resource Development Projects

The Kearns Improvement District purchases most of its drinking water from the Jordan Valley Water Conservancy District (JVWCD). JVWCD is seeking to meet the regional conservation goal of 187gpcd for all of its member agencies combined. If this reduction goal is achieved, it is anticipated that the major Bear River reservoir and pipeline may be pushed out and deferred for several years. The current projected costs are in excess of \$3 billion dollars for this project that would augment the delivery of water into the Salt Lake Valley. This represents a potentially significant saving to all JVWCD water users, including the Kearns Improvement District. It is essential that all of the member agencies that are a part of JVWCD meet their conservation goals as the Kearns Improvement District has, in order to defer from having to bring the Bear River pipeline into the Salt Lake Valley.

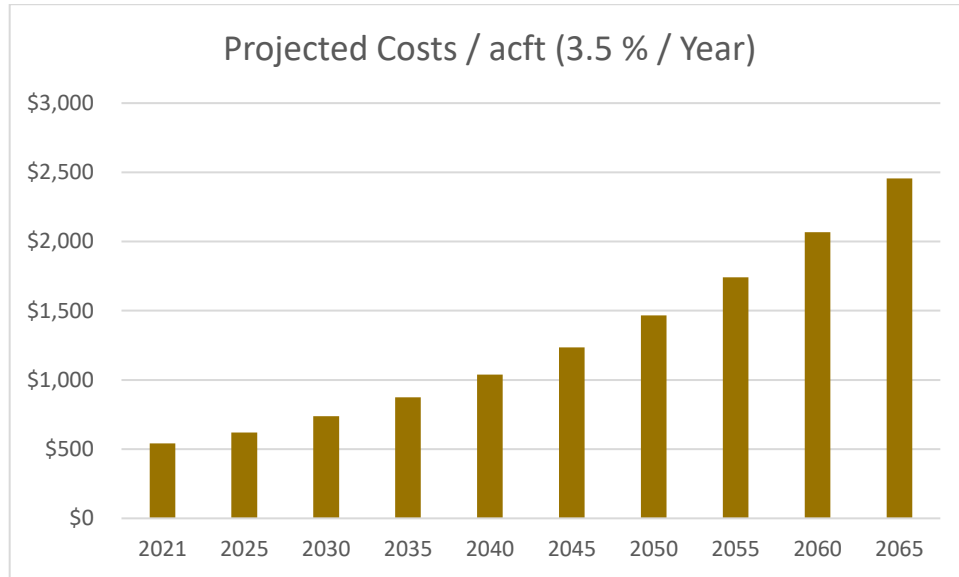
Table 2.8 shows the projected costs of water to serve the District at build-out in 2065. The costs were based on a conservative 3.5% cost increase per year over the 44-year period. Chart 2.3 shows the escalation of prices in graphical form.

Projected Costs per acre-foot of Water

Table 2.8

	Population	Total Water Use Amount (acft)	Projected Costs / acft (3.5 % / Year)	Total Projected Costs / Year (3.5%/Year)	Notes
2021	54,926	8,303.4	\$541	\$4,492,139	JVWCD Contract 7000 AF + 25% + Wells
2025	56,091	8,796.19	\$621	\$5,458,210	JVWCD Contract 7750 AF + 20% + Wells
2030	61,280	9,609.93	\$737	\$7,082,387	"
2035	65,509	10,273.12	\$875	\$8,992,142	JVWCD Contract 8500 AF + 20% + Wells
2040	68,825	10,793.13	\$1,040	\$11,220,432	"
2045	71,345	11,188.32	\$1,235	\$13,814,329	JVWCD Contract 9250 AF + 20% + Wells
2050	73,216	11,481.73	\$1,466	\$16,837,358	"
2055	74,581	11,695.79	\$1,742	\$20,370,319	"
2060	75,564	11,849.94	\$2,069	\$24,512,434	JVWCD Contract 9400 AF + 20% + Wells
2065	76,266	11,960.03	\$2,457	\$29,383,519	"

Projected Costs per acre-foot of Water
Chart 2.3



Chapter 3

System Water Loss Control

Utah Water System Efficiency and Water Loss Control Program

In 2016 the Utah Division of Water Resources (DWR) set forth to enhance the state's water loss programs by implementing a program to train utilities in analysis and management of non-revenue water. This program, known as the Utah Water Efficiency and Water Loss Control Program (Water Loss Control Program) was conceived and executed through a collaborative effort from DWR, the Intermountain Section of the American Water Works Association (IMS-AWWA), and Cavanaugh. The pilot program was to guide and advance adoption of best practices for water loss control in the State of Utah. The Kearns Improvement District was one of three water districts that participated in the pilot program. Using the AWWA M36 methodology the Water Loss Control Program provided superior insight into the District's system efficiency. With this training, KID continues to refine its leak detection process and accounting of non-revenue water loss. The following procedures and best practices are currently incorporated into the KID water loss accounting protocol:

1. KID Facilities Water Efficient Landscaping
 - a. Over the past five (5) years KID has modified the landscaping of all KID facilities with waterwise landscaping and WaterSense® irrigation improvements. Policy has been adopted that encourages this same type of waterwise landscaping or better for all new KID facilities.
2. Metered Water Use
 - a. All KID facilities and landscaping areas have been and are to be metered to account for water use even though no water billing is to take place.
 - b. All meters are to be read and the use reported on a monthly basis.
 - c. All construction water use is to be metered by acquiring a hydrant meter from KID. A large deposit is required for the meter use. Upon return of the meter, the volume of water is determined, and the value of the used water is deducted from the deposit and the remainder of the deposit is returned to the contractor.
3. Non-Metered Use
 - a. Operations and maintenance activities, such as sewer flushing, the operator is to submit each week the number of times the flush tank was filled. This value is to be reported and submitted each week to the comptroller for water use accounting.
 - b. Regarding large water main leaks, firefighting activities, or similar incident, once the main line leak is repaired or activity completed, the water loss is to be determined by examining the SCADA system data, and then reporting the volume of loss to the comptroller for water loss accounting.
4. Large Meter and Commercial Meter Testing and Replacement
 - a. All large meters and commercial water meters are and will be tested once every four (4) years and documented in the KID GIS data system.
 - b. All large meters and commercial water meters are to be replaced based upon testing results, indicating failure to read properly and/or the volume use has reached the manufacturer's recommended useful life limit. Replacement is to be documented in the KID GIS data system.
5. Residential Meter Auditing and Replacement
 - a. All residential water meters are to be visually inspected and maintained once every four (4) years. Any deficiencies or noted repairs are to be reported to the Operations and Maintenance (O&M) Manager within 24 hours of observation. O&M is required to repair the noted issue within 48 hours of notification.

- b. All residential meters are to be replaced once the meter has reached the manufacturer's recommended useful life limit or reported failure of the meter.
 - c. All repairs and replacements of meters are to be documented in the KID GIS data system.
6. Main Line Water Valves
 - a. All water main line valves are to be exercised, visually inspected for leaks, and tested once every four (4) years. Failing valves are to be noted and replaced within two (2) days of reporting. A minimum of forty (40) of the oldest system valves are to be replaced each year. The main line valve activity is to be recorded in the KID GIS data system.
7. Fire Hydrants
 - a. All fire hydrants are to be exercised, visually inspected for leaks, flushed, and maintained once every four (4) years. A minimum of twenty (20) of the oldest system fire hydrants are to be replaced each year. The maintenance and replacement activities are to be recorded in the KID GIS data system.
8. Acoustical Leak Detection
 - a. The entire KID main line water system is to be acoustically tested once a year to examine the system for noted leaks. In the event of a noted leak the manager of the O&M department is to be notified and the leak is to be repaired within 48 hours of notification. The noted leak detection activity and repairs are to be recorded in the KID GIS data system.
9. Water Main Replacement
 - a. KID has an asset management program for the replacement of aging and failing water mains each year. Budgeted funds are allotted each year for planned system water main replacement projects in a proactive effort to replace potentially failing lines prior to actual failure. This approach continues to reduce the number of main line failures and water loss that the District experiences each year.

Historic Water Loss
Table 3.1

Year	Gallons Purchased/ Produced	Gallons Accounted For	Water Loss Rate
2005	2,546,163,950	2,512,962,948	1.3%
2006	2,916,037,905	2,786,378,364	4.4%
2007	3,205,328,802	3,011,193,039	6.1%
2008	2,883,837,267	2,679,802,137	7.1%
2009	2,692,816,643	2,508,684,519	6.8%
2010	2,681,037,114	2,496,360,818	6.9%
2011	2,547,737,812	2,395,304,515	6.0%
2012	2,992,404,446	2,837,840,080	5.2%
2013	2,789,747,667	2,593,125,658	7.0%
2014	2,577,911,655	2,390,446,070	7.3%
2015	2,699,320,638	2,377,861,688	11.9%
2016	2,885,121,122	2,598,013,429	10.0%
2017	2,793,576,422	2,664,161,269	4.6%
2018	2,865,240,926	2,716,036,816	5.2%
2019	2,576,578,922	2,390,309,212	7.2%
2020	3,115,182,005	2,971,621,642	4.6%
2021	2,705,674,741	2,521,744,644	6.8%

Chapter 4

Current Water Conservation Activities

Water Efficiency Standards

The Kearns Improvement District has taken a proactive approach to help diminish the use of culinary water indoor use and outdoor for landscape uses. KID has provided significant input into the development of the Jordan Valley Water Conservancy District (JVWCD) Water Efficiency Standards through representation on the Board of Trustees for JVWCD and direct input with JVWCD staff and management. In summary the water efficiency standards require conservation standards for indoor plumbing fixtures and outdoor landscaping for new residential, commercial, institutional, and industrial construction, and new landscaping construction installed by homeowners. The standards require:

- The use of WaterSense plumbing fixtures
- Front and side-yard landscaping improvements are to comply with waterwise design using the Locascapes® approach using inorganic mulch, compost, wood chips, and minimal turf grass with waterwise plants, trees, and bushes.
- The use of WaterSense irrigation controllers with the use of high efficiency drip irrigation and bubblers.

The Kearns Improvement District serves the Kearns Metro Township, a portion of West Valley City, a portion of West Jordan City, and a small portion of Taylorsville City and unincorporated Salt Lake County. The Kearns Improvement District has worked with the Kearns Metro Township and West Jordan City, and West Valley City in adopting the JVWCD Water Efficiency Standards. KID continues to encourage Taylorsville City to adopt these standards. These rules and regulations require:

- All new connections for all customer classes (residential, commercial, industrial, institutional) are to comply with the District's adopted Water Efficiency Standards.
- A landscaping plans will be prepared according to the water efficiency standards for the front and side-yards of the development. The plan is then submitted to KID and the respective entity for review of compliance to the standards and approval.
- Upon approval, the applicant will submit a performance bond in the amount of the estimated landscape improvements to the municipality.
- The entity will terminate the bond when the applicable landscaping has been installed correctly, inspected, and approved by the respective entities.

Water Conservation Rate Structure

As part of the conservation effort KID has adopted a tiered water rate structure. The cost of water significantly increases as the water use exceeds basic needs. In 1994 the Kearns Improvement District adopted an increasing block water rate schedule. Table 4.1 shows the District's 2021 and the recently approved and adopted 2022-Tiered Water Rate Structure. The water rates have been found to directly affect water use since implementing its increasing block water rate. It is believed to be one of the most significant measures impacting the reduction in water use in the Kearns Improvement District.

KID Tiered Water Rate Structure

Table 4.1

	2021		2022 (4% Increase)	
	Basic Service Fee	Special Water Fee	Basic Service Fee	Special Water Fee
Residential				
(5/8 - 3/4" meter)	\$9.60	\$2.00	\$10.00	\$2.08
Meters Larger than 3/4"				
1"	\$15.94	\$4.00	\$16.58	\$4.16
1 1/2"	\$31.89	\$8.00	\$33.17	\$8.32
2"	\$55.81	\$14.00	\$58.04	\$14.56
3"	\$127.54	\$32.00	\$132.64	\$33.28
4"	\$227.69	\$56.00	\$236.80	\$58.24
6"	\$510.20	\$128.00	\$530.61	\$133.12
8"	\$908.79	\$228.00	\$945.14	\$237.12
10"	\$1418.99	\$356.00	\$1475.75	\$370.24

	Residential				Commercial	Industrial
Calendar Year	Tier 1 <10,000 gals	Tier 2 10,001 - 25,000 gals	Tier 3 25,001 - 45,000 gals	Tier 4 >45,000 gals	All Use	All Use
2021	\$2.33	\$2.92	\$3.97	\$5.67	\$2.74	\$2.48
2022	\$2.42	\$3.04	\$4.13	\$5.90	\$2.85	\$2.58
	Multi-Family (Less than 8 units/acre)					
2021	\$2.33	\$2.80	\$3.62	\$5.29		
2022	\$2.42	\$2.91	\$3.76	\$5.50		
	Multi-Family (More than 8 units/acre)					
2021	\$2.33	\$2.80	\$3.62	\$5.29		
2022	\$2.42	\$2.91	\$3.76	\$5.50		

Ongoing Conservation Programs

The Kearns Improvement District has aggressively implemented water conservation programs and activities. Some of the water conservation programs implemented include:

- A part-time water conservation programs coordinator
- A public information and education campaign.
- A conservation demonstration garden.
- A low flow toilet giveaway program.
- Reduced flow shower heads giveaway program.
- Landscape hose nozzle timers, giveaway program.
- Conservation messaging on customer's bills.
- Residential and commercial water audits.

- Conservation messaging boards posted around the District.

The following sections are descriptions of the Kearns Improvement District's conservation programs:

Water Conservation Programs Coordinator

The Kearns Improvement District appointed a water conservation coordinator to run its water conservation programs. It is estimated that KID's coordinator spends approximately ¼ of their time on conservation efforts.

Public Information and Education Campaign

2022 CONSERVATION PROGRAM

1. PROMOTE UTAH WATER SAVERS JANUARY 1, DECEMBER 31, 2022

- **Landscape Consultations** with Jordan Valley Conservancy Staff
- **Toilet replacement Program**, up to two Toilets Replaced per household, replacing one inefficient toilet with a WaterSense certified efficient toilet could save 13,000 gallons of water per year
- **Smart Controller Rebates**, Smart Water Efficiency, potentially saving 50% of water used outdoors which is the average waste (per WaterSense)
- **Flip your Strip Program** with Jordan Valley Conservancy Park
- **Locascapes University Program and rebates**
- **Animated video clips** on the drought, why conservation, and brief animated video clips of ways to conserve water with links on the KID and Metro websites, billing statements, local library conservation display, and elementary school instruction programs.

2021 Results

- Flip your Strip - 8 completed projects, 20 active projects, \$4,581.89 rebates distributed.
- Landscape Consultation - 24 visits completed.
- Locascapes Rewards - 5 completed projects, 8 active projects, \$8,699.70 rebates distributed.
- Toilet Rebates - 17 toilet rebates, \$1,757.00 rebates distributed.
- Smart Controller Rebates - 70 rebates, \$5,117.04 rebates distributed.

2. PROMOTE LOCALSCAPES PROGRAM, ALL ONLINE CLASSES, FLYERS, REBATES FEB-OCTOBER

- **Introduction to Locascapes**
- **Introduction to Locascapes**
- **Locascapes University**
- **Locascapes Design Workshop**
- **Locascapes University**
- **Locascapes Design Workshop**
- **Creating Waterwise Park Strips**

3. KID CONSERVATION KIT GIVE AWAY FEBRUARY 28 – SEPT 29

326 Distributed to KID Customers in 2021

ITEMS IN OUR KIT:

- **5 Min Shower Timer:** save 2,700 gallons of water a year for each full minute less in the shower.
- **Manual Hose Timer:** to avoid overwatering when watering with a hose.

- **Pressure Hose Nozzle:** flows max 2.5 gpm, an unrestricted hose flows up to 10 gpm.
- **Faucet Aerator:** to reduce faucet water waste in kitchen and bathroom.
- **Leak Detection Tablets:** to identify and encourage fixing toilet leaks., Repairing a toilet leak could save up to 200 gallons of water every day
- **Moisture Meter:** to eliminate improper and over-watering to trees, shrubs and lawn. Overwatering is a major cause of outdoor water waste.

4. PROMOTE “SLOW THE FLOW” FEBRUARY 28 – SEPTEMBER 29

(KID Staff Monday STF Shirts)

We follow this, specific to Utah climate program during the summer to promote reduced water waste outdoors.

5. FIX A LEAK WEEK MARCH 1-31, 4th Grade Students

- We visit schools within our service area. We bring a water cycle-water conservation presentation with emphasis on water-wasting leaks in homes. We include our leak detection program.
- We also have put together “Fix a leak kit” for all our customers, these are available all year long. WaterSense estimates that 10% of homes have leaks that average a waste of 90 gallons per day.

6. WEST VALLEY CITY SPRING FEST APRIL, TBA, Centennial Park

KID conservation booth. KID staff brings activities to increase conservation awareness. We also distribute information related to conservation programs available to the community.

7. WATER WEEK MAY, TBA, During Office hours.
AWWA-IMS Campaign program

8. LUNCH SERIES JUNE–AUGUST, TBA, 11:30 A.M to 1:00 P.M
Outdoor classes Oquirrh Fitness Park

We utilize the Community Lunch program. We coordinate with Oquirrh Fitness Park staff by bringing water conservation education during lunch time. Most of our audience are the students attending summer programs and the daycare at the park, some families and park visitors.

9. SUMMER SAFARI JUNE, TBA, KID Hayes Conservation Garden

We organize this event by inviting our community to our park to learn about water efficiency and take the opportunity to listen to their water conservation concerns. We bring education materials, information about programs available and conservation products. Also, we invite community programs for fun learning, example, Wild Wonders, Loveland Aquarium, Utah Waters van.

10. KEARNS HOMETOWN AUG, TBA, KATEC Building at Kearns Oval
Community event, water conservation booth

11. FIRE WATER & ICE AUG, TBA, Kearns Oquirrh Park
Community event, Water conservation booth

12. PARTY AT THE PARK AUG, TBA, JVCD Conservation Park

13. WATER EFFICIENT SHOWERHEAD GIVE AWAY, AVERAGE 200 PER YEAR
OCTOBER 2021- MARCH 2022

Shower Better, Water Sense's national campaign. We offer education about efficient showering, and a water efficient showerhead. Reducing time in the shower could save 2,700 gallons a year per resident per household.

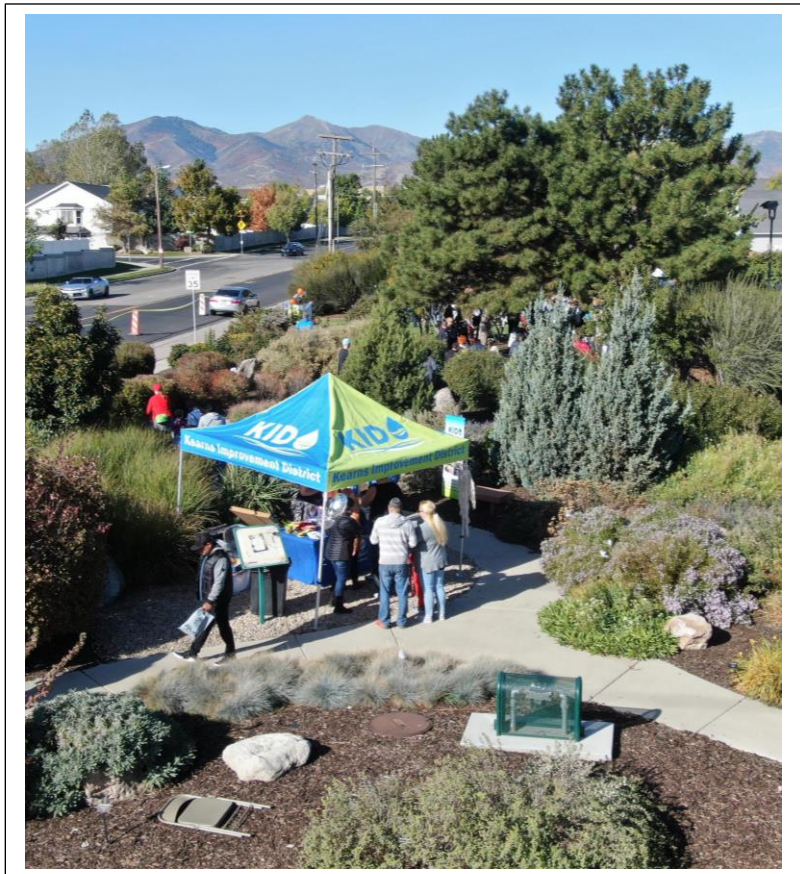
14. KID HAUNTED GARDEN OCT, TBA, KID Hayes Garden

This event is very much the same as our summer's park event, but we focus on cold weather and outdoor preparations to save water and indoor water efficiency. As most people will be spending more time indoors during winter months, we offer information on how to save water while showering, cooking etc. It is a "haunted" event for the fun of the season.

**15. SPOOKY TRUNK-A-TREAT OCT, TBA, Oquirrh Park Olympic Oval
Community event, conservation booth**

Conservation Demonstration Garden

The greatest potential for water conservation is through a reduction in water used for landscape purposes. The Kearns Improvement District has constructed a conservation garden to demonstrate landscape conservation principles by using a variety of water-wise plants, trees, and bushes. The demonstration garden exhibits how to have an attractive landscape suited to the Utah climate that saves water by using LocalScapes® type designs and installation in lieu of the traditional turf grass lawns.



Low Flow Toilet Replacement Program

The toilet replacement program was instituted in 2006 and over the past fifteen (15) years the Kearns Improvement District has given away over 3,000 low flow toilets. The high Efficiency Toilets (HET) use 1.2 gallons per flush. The older toilets use between 3.5 to 7 gallons per flush. It is estimated that over 40 gallons per day for each old flow toilet that is replaced. With over 3,000 toilets that have been replaced, that would be equivalent to 43,800,000 gallons (134.4 acre-feet) per year that is conserved.

Conservation Messaging on Monthly Bills

Each month as part of the water bill a conservation message headlines the bill. In the box below is a sample of the billing message. This message was part of the January 2022 KID water/sewer bill.

KEARNS IMPROVEMENT DISTRICT

NEW BUSINESS HOURS STARTING JANUARY 2022

8:00 am – 5:30 pm

Monday-Thursday

Closed Fridays and Holidays

NEW YEAR RESOLUTIONS?

Thank you to those customers who helped us this past year in conserving water during this time of severe drought. KID reduced its water consumption by 13%. Thank you! Please continue in your conservation efforts. Be mindful that any water that we can save now, even in the winter months, will be water that could be available in the summer months.

BE WATER WISE AND SLOW THE FLOW!

This January billing cycle you can enroll in our **EQUAL PAY PLAN!**

Please contact our office to enroll or discuss your equal pay plan at

801-968-1011

The enrollment period ends with this statement's due date.

After a snowfall, remember to clear a three-foot radius around fire hydrants near your home, this will aid the fire department to rapidly locate it in case of a fire emergency.

Drought Level Water Conservation Policy

In the October 2021 KID Board of Trustees meeting the Board approved the changes to the KID Policy Manual, Section 3.1.17, Water Conservation, describing the water conservation policy measures to be taken during a declared drought that will coordinate with the JWWCD Drought Response Manual.

Drought Level	Advisory Code	Water Shortage Description	Impacts to Contract Amounts
Level 0	Blue	Normal	adequate supplies to satisfy all retail customer needs and all wholesale minimum contract amounts
Level 1	Yellow	Moderate	5% reduction in typical use for wholesale member agencies and JWWCD retail customers, but in any event, JWWCD will not supply more than 120% of wholesale contract amounts
Level 2	Orange	Severe	10% reduction in typical use for wholesale member agencies and JWWCD retail customers, but in any event, JWWCD will not supply more than 110% of wholesale contract amounts.
Level 3	Dark Orange	Extreme	20% reduction in typical use for wholesale member agencies and JWWCD retail customers, but in any event, JWWCD will not supply more than wholesale contract amounts.
Level 4	Red	Critical/Exceptional	30% reduction in typical use for wholesale member agencies and JWWCD retail customers. JWWCD will determine the water supply availability as a ratio to wholesale contract amounts (i.e. 90%, 85%, etc.) at the time that this level of drought is established.

3.1.17. WATER CONSERVATION

Customers shall prevent unnecessary waste of water and shall be required to keep their sprinklers, hydrants, faucets, valves, hoses and all apparatus in good condition at their own expense and closed or turned off when not in use. Whenever it shall be found that any fixture on the customer's premises is broken or not in a serviceable condition, the customer shall be notified at once of that fact, and should said customer fail to remedy the defect, water shall be shut off and will not be turned on again until such apparatus is put in a serviceable condition. A reconnection fee as required by Subsection 3.1.13.D. shall be paid by the customer for thereafter turning on the water. Customers shall not use water for purposes other than those for which they have applied, or use water in violation of the District's rules and regulations.

- A. **Emergency Water Rationing Program:** Upon receipt of notification from the Jordan Valley Water Conservancy District, that water supplies will be curtailed and/or upon receipt of other relevant information that indicates a shortage of available water supplies, the Board of Trustees and/or the General Manager of the District shall have the power and authority to declare a drought and the District shall implement a water rationing program as determined by the Board and/or the General Manager.

1. **Drought Levels :** The Board of Trustees and/or the General Manager may declare one of the following stages of drought.

Drought Level 1: Advisory Code - Yellow, Water Shortage Description Moderate.

Drought Level 2: Advisory Code - Orange, Water Shortage Description - Severe.

Drought Level 3: Advisory Code - Dark Orange, Water Shortage Description - Extreme.

Drought Level 4: Advisory Code - Red, Water Shortage Description - Critical Exceptional

2. **Actions for Drought Condition:** The Board and/or the General Manager may authorize the implementation of the following actions to curtail water supply in response to drought conditions:

- a. **Drought Level 1:** (a) limit watering times to 6:00 p.m. to 8:00 a.m. and (b) notify customer of broken and misdirected sprinkler heads. Goal: at least a 5% reduction in typical water use.
- b. **Drought Level 2** (a) limit watering times to 8:00 p.m. to 8:00 a.m., (b) limit outside watering to two times a week (c) increase watering service charges to Emergency Conservation Rates Level 2, (d) notify customer of broken and/or misdirected sprinkler heads, and notify customers of water use violations Goal: at least a 10% reduction in typical water use.
- c. **Drought Level 3:** (a) limit watering times to 8:00 p.m. to 8:00 a.m., (b) limit outside watering to two times a week for trees and shrubs only, and no watering of grass, gardens or other plants, (c) increase watering service charges to Emergency Conservation Rates Level 3, and (d) turn off a customer's water after the second notice of broken and/or misdirected sprinkler heads, and/or of a water use violation. Goal: at least a 20% reduction in typical water use.
- d. **Drought Level 4:** (a) limit watering times to 8:00 p.m. to 6:00 a.m., (b) limit outside watering to one time a week for trees and shrubs only, and no watering of grass, gardens or other plants, (c) increase watering service charges to Emergency Conservation Rates Level 4, and (d) turn off a customer's water after the second notice of a water use violation. Goal: at least a 30% to 50% reduction in typical water use.
- e. **Emergency Conservation Rates**
(A=Cost per thousand gallons Block 1)

(B= Cost per thousand gallons Block 2)

(C=Cost per thousand gallons Block 3)

(D=Cost per thousand gallons Block 4)

(E=Basic Water Fee each meter)

(F= Special Water Fee each meter)

Residential, including multi-family				
Current				
Description	Level 0 & 1	Level 2	Level 3	Level 4
Tier 1 "Life Water"	\$A	\$A	\$A	\$A
Tier 2 "Conservation"	\$B	\$(2 x B)	\$(3 x B)	\$(4 x B)
Tier 3 "Irrigation"	\$C	\$(2 x C)	\$(3 x C)	\$(4 x C)
Tier 4 "Waste"	\$D	\$(2 x D)	\$(3 x D)	\$(4 x D)
Basic Water Fee ea. meter	\$E	\$E	\$E	\$(1.04 x E)
Special Water Fee ea. meter	\$F	\$F	\$F	\$(1.04 x F)

3. **Additional Restrictions:** The water conservation effort may, in the District's discretion, include additional elements such as curtailing outside water use by large water users such as schools, churches, parks and recreation areas, or requiring them to use outside water only during off-peak times such as after 10:00 p.m. and prior to 8:00 a.m.; curtailing all outside watering; and/or curtailing all industrial and commercial use of water; etc.
4. **Board Discretion:** The District Board of Trustees shall have discretion to determine the propriety of implementing an emergency water rationing program and shall direct the imposition of such restrictions and actions as the Board, in its discretion and based upon available facts and information, deems expedient. In the event that the General Manager declares a drought emergency and/or implements an emergency water rationing program, that declaration and the water rationing program shall be placed upon the agenda of the next regular or special meeting of the Board of Trustees for review, ratification and/or modification.

Cost Effectiveness of Existing Conservation Programs

In Table 4.2 the approximated costs associated with the implementation of several conservation activities undertaken by the Kearns Improvement District.

Conservation Programs Costs

Table 4.2

Year	Conservation Coordinator	Toilet Give-Away	Fixture Give-Away	Education Programs	Conservation Garden	Leak Detection	Totals
2011	\$10,500	\$38,000	\$0	\$1,000	\$3,000	\$5,000	\$57,500
2012	\$10,500	\$33,000	\$0	\$1,000	\$3,000	\$5,000	\$52,500

2013	\$11,000	\$15,000	\$10,000	\$1,000	\$3,000	\$5,000	\$45,000
2014	\$11,000	\$16,000	\$10,000	\$1,000	\$3,000	\$5,000	\$46,000
2015	\$11,000	\$16,000	\$5,000	\$1,000	\$3,000	\$21,500	\$57,500
2016	\$12,200	\$20,000	\$10,000	\$2,000	\$4,000	\$5,000	\$41,000
2017	\$12,900	\$0	\$10,000	\$2,000	\$4,000	\$66,500	\$82,500
2018	\$13,800	\$0	\$10,000	\$2,500	\$4,000	\$15,000	\$45,300
2019	\$14,700	\$0	\$10,000	\$2,500	\$4,000	\$11,000	\$42,200
2020	\$15,600	\$0	\$10,000	\$2,500	\$4,000	\$11,000	\$43,100
2021	\$16,500	\$1,757	\$10,000	\$18,399	\$4,000	\$10,000	\$43,000
TOTALS	\$139,700	\$101,757	\$85,000	\$34,899	\$39,000	\$160,000	\$542,700

The cost effectiveness of KID's water conservation activities is important to the Kearns Improvement District. The metrics and effectiveness of some of the conservation activities are hard to measure, while others have components that are easy to quantify. Activities such as the education campaign are difficult to quantify and no cost saving calculations are provided for those efforts. Not being able to measure results of these programs does not mean these programs are not important and valuable in sharing the message to conserve water. Communication, demonstration, and understanding are an essential part of any successful messaging program. KID has worked with JWCDC for many years in applying for and receiving matching grant funds for its conservation program. JWCDC has been a valuable partner in this effort. When comparing the results as shown in the table below and comparing them to the cost of our wholesale water rate of \$541/Ac.Ft. from JWCDC, the value of these conservation programs is manifest.

Conservation Programs Cost Effectiveness

Table 4.3

	Volume Saved (AcFt/YR)	Approximate Time Duration (Years)	Total Volume Saved (AcFt)	Conservation Costs (Past 10yrs)	Costs of Conservation / AcFt
Low flow Toilet	134.4	10	1344.0	\$ 101,757	\$ 75.71
Leak Detection	180.0	10	1800.0	\$ 160,000	\$ 88.89
Fixture Replacement	19.7	10	197.2	\$ 85,000	\$ 431.02

Chapter 5

Conservation Practices - The Next 5 Years Synopsis

KID Conservation Committee

F. Greg Anderson, P.E.	General Manager / CEO
Riley Astill	Conservation Administrator
Abby V. Williams	Conservation Coordinator
Gloria Rios	Conservation Committee Member
Blake Anderson	Conservation Committee Member
Bracken Hansen	Conservation Committee Member

Goals

State Regional Goal 187gpcd

KID 140gpcd

The Kearns Improvement District has met and exceeded the State of Utah regional goal.

Water Conservation Rate Structure

Continue with the current water rate structure with programed annual financial and rate studies to adjust as needed.

Best Management Practices Conservation Program

- Continue with the funding from the JVWCD Conservation Matching Grant Program
- A part-time water conservation programs coordinator
- A public information and education campaign.
- A conservation demonstration garden and events as pandemic allows.
- Reduced flow shower heads giveaway program.
- Landscape hose nozzle timers, giveaway program.
- Conservation messaging on customer's bills.
- Residential and commercial water audits.
- Conservation messaging boards posted around the District.
- Video messaging for social media postings

Water Efficiency Standards

To implement the JVWCD Landscape Water Efficiency Standards that were recently adopted by the entities that are served by KID for all new and remodeled homes and sites within the KID service boundaries. See appendix for copy of standards.

Leak Detection and Replacement Program

- Large meter & commercial meter testing and replacement program
- Residential meter audit & replacement program
- Water main line valve replacement program
- Fire hydrant testing, maintenance, and replacement program
- Complete acoustical leak detection of at least half of the service district each year.

Advanced Metering Infrastructure

- Incorporate the residential meter replacement with advanced metering infrastructure over the next 5 years. This will allow customers, if desired, to see real-time water use data.

Appendix

Overview of the JVVCD Water Efficiency Standards

1. **Purpose**
The purpose of these Water Efficiency Standards is to conserve the public's water resources by establishing water conservation standards for indoor plumbing fixtures and outdoor landscaping.
1. **Applicability**
The following standards shall be required for all developer/contractor installed residential, commercial, institutional, and industrial construction, as applicable. The Outdoor Landscaping Standards shall also be required for new landscaping construction installed by homeowners.
2. **Indoor Fixture Requirements**
It is recommended and encouraged, but not mandated, that all new and future construction and future additions, remodels or refurbishments install plumbing fixtures that have the WaterSense® label, including lavatory faucets, shower heads, sink faucets, water closets (tank and flushometer-valve toilets), and urinals, to the extent Utah law allows municipalities or local districts to require these fixtures.
3. **Outdoor Landscaping Standards**
All new and rehabilitated landscaping for public agency projects, private development projects, developer-installed landscaping in multi-family and single-family residential projects within the front and side yards, and homeowner provided landscape improvements within the front and side yards of single and two-family dwellings shall comply with the landscaping standards below:

Definitions

- A. **Activity Zones:** Portions of the landscape designed for recreation or function, such as storage areas, fire pits, vegetable gardens, and playgrounds.
- B. **Active Recreation Areas:** Areas of the landscape dedicated to active play where lawn may be used as the playing surface (ex. sports fields and play areas).
- C. **Central Open Shape:** An unobstructed area that functions as the focal point of Localscapes and is designed in a shape that is geometric in nature.
- D. **Gathering Areas:** Portions of the landscape that are dedicated to congregating, such as patios, gazebos, decks, and other seating areas.
- E. **Hardscape:** Durable landscape materials, such as concrete, wood, pavers, stone, or compacted inorganic mulch.
- F. **Lawn:** Ground that is covered with grass or turf that is regularly mowed.
- G. **Localscapes®:** A landscaping approach designed to create locally adapted and sustainable landscapes through a basic 5-step approach (central open shape, gathering areas, activity zones, connecting pathways, and planting beds).

- H. Mulch: Any material such as rock, bark, compost, wood chips or other materials left loose and applied to the soil.
 - I. Park Strip: A typically narrow landscaped area located between the back-of-curb and sidewalk.
 - J. Paths: Designed routes between landscaped areas and features.
 - K. Planting Bed: Areas of the landscape that consist of plants, such as trees, ornamental grasses, shrubs, perennials, and other regionally appropriate plants.
 - L. Total Landscaped Area: Improved areas of the property that incorporate all of the completed features of the landscape. The landscaped area does not include footprints of buildings or structures, sidewalks, driveways, and other non-irrigated areas intentionally left undeveloped.
4. Landscaping Requirements
- A. All irrigation shall be appropriate for the designated plant material to achieve the highest water efficiency. Drip irrigation or bubblers shall be used except in Lawn areas. Drip irrigation systems shall be equipped with a pressure regulator, filter, flush-end assembly, and any other appropriate components.
 - B. Each irrigation valve shall irrigate landscaping with similar site, slope and soil conditions, and plant materials with similar watering needs. Lawn and Planting Beds shall be irrigated on separate irrigation valves. In addition, drip emitters and sprinklers shall be placed on separate irrigation valves.
 - C. Landscaped areas shall be provided with a WaterSense labeled smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions. All controllers shall be equipped with automatic rain delay or rain shut-off capabilities.
 - D. At least 3-4 inches of Mulch, permeable to air and water, shall be used in Planting Beds to control weeds and improve the appearance of the landscaping.
 - E. At maturity, landscapes are recommended to have enough plant material (perennials and shrubs) to create at least 50% living plant cover at maturity at the ground plane, not including tree canopies.
 - F. Lawn shall not be installed in Park Strips, Paths, or on slopes greater than 25% or 4:1 grade and be less than 8 feet wide at its narrowest point. To the extent reasonably practicable, Lawn shall be free from obstruction (trees, signs, posts, valve boxes, etc.).
 - G. In residential landscapes, the landscaping shall adhere to the following Locascapes® requirements:
 - i. If size permits, the landscaped areas of the front yard and back yard shall include a designed Central Open Shape created by using Lawn, Hardscape, groundcover, gravel, or Mulch.

- ii. Gathering Areas shall be constructed of Hardscape and placed outside of the Central Open Shape. In a landscape without Lawn, Gathering Areas may function as the Central Open Shape.
 - iii. Activity Zones shall be located outside of the Central Open Shape and shall be surfaced with materials other than Lawn.
 - iv. Paths shall be made with materials that do not include Lawn, such as Hardscape, Mulch, or other groundcover.
 - v. Lawn areas shall not exceed the greater of 250 square feet, or 35% of the Total Landscaped Area.
 - vi. Small residential lots, which have no back yards, for which the Total Landscaped Area is less than 250 square feet, and which the front yard dimensions cannot accommodate the minimum 8 feet wide Lawn area requirement of the Landscaping Requirements in section F, are exempt from the 8 feet minimum width Lawn area requirement.
- M. In commercial, industrial, institutional, and multi-family development common area landscapes, Lawn areas shall not exceed 20% of the Total Landscaped Area, outside of active Recreation Areas.
- N. Certain special purpose landscape areas (e.g. stormwater management areas, etc.) may receive exceptions from the slope limitations and other elements of the Landscaping Requirements (see Paragraph F. above). Applications to receive exceptions are to be considered on a case-by case basis.
- O. These outdoor standards are not intended to be in conflict with other landscaping requirements as defined by Utah law, including stormwater retention requirements and low-impact development guidelines. Notwithstanding these outdoor standards, whenever any requirement may be in conflict with Utah law, such conflicting requirements shall not apply.

Notice of Public Hearing - Proof of Publication for the 2022 Water Conservation Plan Update

Utah Public Notice

Board of Trustees

NOTICE OF PUBLIC HEARING FOR 2022 WATER CONSERVATION PLAN UPDATE

Notice Date & Time: 5/10/22 6:00 PM

Description/Agenda:

KEARNS IMPROVEMENT DISTRICT
NOTICE OF PUBLIC HEARING
For
2022 WATER CONSERVATION PLAN UPDATE

The Board of Trustees of the Kearns Improvement District (the 'District') will hold a public hearing on Tuesday, May 10, 2022, commencing at 6:00 p.m. at the District office located at 5350 West 5400 South, Kearns, Utah 84118, for the purpose of receiving public comment on the following:

The District's 2022 Water Conservation Plan Update.

The proposed 2022 Water Conservation Plan Update will be available for public inspection at the District office and has been posted on the District's website <http://www.kearnsid.org> and on the Utah Public Notice website. This Notice is being given in satisfaction of requirements of Utah Code Ann. § 73-10-32. If you cannot attend the public hearing and would like to submit written comments, they will be received until 5:00 p.m. on May 10, 2022, at the District office. Anyone requiring assistance in understanding or participating in the public hearing is encouraged to notify Jamie Banh at (801) 968-1011 at least two days before the public hearing so assistance may be provided.

Dated this 3rd day of May, 2022.

By: Riley Astill, District Clerk

4877-5125-5838, v. 1

Notice of Special Accommodations:

Reasonable accommodation will be made for disabled persons needing assistance to attend or participate in this meeting. Please notify the District three (3) days in advance of the meeting and we will try to provide the needed assistance. The person to contact for assistance is Jamie Banh, 801-968-1011.

Notice of Electronic or telephone participation:

A member of the Board of Trustees may participate telephonically.

Other information:

Location:

5350 W 5400 S, KEARNS, 84118

Contact information:

F. Greg Anderson , ganderson@kearnsid.org, (801)968-1011

Public Comments on the Kearns Improvement District 2022 Water Conservation Plan Update

There were no public comments received or made during the public hearing held on Tuesday May 10, 2022, KID Board of Trustees meeting.

Resolution by Kearns Improvement District adopting the 2022 Water Conservation Plan Update

**KEARNS IMPROVEMENT DISTRICT
RESOLUTION 22-5-1**

RESOLUTION ADOPTING AND APPROVING

2022 WATER CONSERVATION PLAN UPDATE

WHEREAS, the Trustees of the Kearns Improvement District (the “District”), pursuant to the requirements of Utah Code Ann. § 73-10-32, desire to adopt, approve and implement the 2022 Water Conservation Plan Update of the Kearns Improvement District (the “Plan”);

WHEREAS, the main purpose of the Plan is to guide the water conservation program of the District for the next 5 years, including stating the District’s existing and proposed water conservation measures to conserve water in terms of per capita use of water provided through the District’s culinary water system so that adequate supplies of water will be available for future needs and establishing a water conservation reduction goal and an implementation plan; and

WHEREAS, the District has provided notice of a public hearing and has held a public hearing to enable members of the public to learn about the Plan and to comment on the Plan.

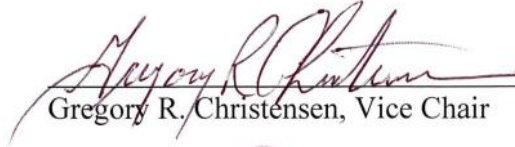
NOW, THEREFORE, be it resolved by the Board of Trustees of the Kearns Improvement District as follows:

1. That the 2022 Water Conservation Plan Update of the Kearns Improvement District dated May 2022, a copy of which may be attached to this Resolution, be and is adopted and approved.
2. That any prior Water Conservation Plan of the District and other enactments of the District, to the extent they conflict with the Plan, be and hereby are repealed.
3. That the Plan has been divided into sections, subsections, paragraphs and clauses for convenience only, and the interpretation of the Plan shall not be affected by such division or by any heading contained therein.
4. That, if any section, subsection, paragraph, clause or phrase of the Plan should be determined to be invalid for any reason, such determination shall not affect the remaining portions of the Plan which, except as otherwise specifically stated herein, shall remain in full force and effect. For this purpose, the provisions of the Plan are declared to be severable.
5. That this Resolution shall take effect immediately upon its passage, with the Plan also to be effective immediately.

Adopted and approved by the Board of Trustees of the Kearns Improvement District this
10th day of May, 2022.



Cheryle A. Hatch, Chair



Gregory R. Christensen, Vice Chair



Jeff Monson, Board Clerk/Trustee

**MINUTES OF THE MEETING OF THE
KEARNS IMPROVEMENT DISTRICT (KID) BOARD OF TRUSTEES
HELD MAY 10, 2022 AT THE DISTRICT OFFICE
LOCATED AT 5350 WEST 5400 SOUTH, KEARNS, UTAH**

Trustees Present:

Cheryle A. Hatch
Gregory R. Christensen
Jeff Monson

Staff Present:

Greg Anderson	General Manager/CEO
Riley Astill	Finance Director/Controller
James “Woody” Woodruff	Public Works Director/Engineer
Mark H. Anderson	Attorney
Jamie Banh	Executive Administrative Assistant
Eric Reid	System Operator III
Frank deJong	Assistant Operations Manager
Manny Domingo (Electronically)	System Operator III

Call to Order:

Chair Hatch called the meeting to order at 5:30 p.m. and welcomed all those present. The invocation was offered by Jeff Monson and the pledge of allegiance was led by James Woodruff.

Public Comments:

There were no public comments.

Approval of Minutes (Regular Meeting, April 19, 2022):

It was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That the minutes of the April 19, 2022 Board meeting be approved as presented.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Board Training – Sewer Line Maintenance:

Eric Reid discussed sewer line maintenance activities and responsibilities, using slides to illustrate his points. He explained that the District’s 200 plus miles of sewer pipes are cleaned each year. During his presentation, Mr. Reid responded to questions from the Trustees. At the

end of his presentation, Manny Domingo declared that Mr. Reid does a good job, and a “thank you” was expressed to Mr. Reid by the Trustees.

Consider General Manager’s Report (including the Administrative/Financial Report and the Public Works Report):

Greg Anderson reviewed his monthly Report, a copy of which was included in the Board Book. Mr. Anderson provided a brief update concerning the development of water conservation film clips. Trustee Monson offered customer feedback about how the District is doing. Greg Anderson mentioned the District’s 2022 Water Conservation Plan, which has been finalized after addressing comments provided by the Utah Department of Natural Resources and the Division of Water Rights. A bound copy of the Water Conservation Plan (the subject of a public hearing to commence at 6:00 p.m.) was provided to the Trustees.

Riley Astill reviewed his Financial Report, a copy of which was included in the Board Book, noting that actual net income continues to compare favorably with budgeted net income through March. Among other things, he reported concerning a software issue that has been resolved; reviewed the District’s Bonds Payable Summary; and provided information respecting the amount of water that was purchased from the Jordan Valley Water Conservancy District over the past four years.

Public Hearing on the 2022 Kearns Improvement District Water Conservation Plan Update:

It being 6:00 p.m., the advertised time for the public hearing to commence, Chair Hatch declared the public hearing to be open. Greg Anderson briefly explained and reviewed highlights from the Water Conservation Plan, during which there was a back and forth conversation between Mr. Anderson and all three Trustees. During the discussion, Trustee Christensen noted a minor correction in two places within the Plan. Greg Anderson stressed the Per Capita Water Use section of the Report and projected water supplies and water use over the next 40 years. He noted that the cost of water is projected to increase dramatically over that time period. Respecting the Water Loss Control Program, Mr. Anderson noted that KID is a state leader. Mr. Anderson responded to a series of questions from Trustee Christensen relative to KID’s water conservation activities, and there was a lengthy discussion of tiered pricing versus block pricing of water.

Chair Hatch called for public comments and questions. There being none, she declared the public hearing to be closed at 6:26 p.m.

Consider Resolution 2022-5-1 Approving the 2022 KID Water Conservation Plan Update:

It was moved by Trustee Monson and seconded by Trustee Christensen as follows:

That Resolution 2022-5-1 be adopted, thereby approving the District’s 2022 Water Conservation Plan Update with changes as discussed.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Consider General Manager's Report (including the Administrative/Financial Report and the Public Works Report):

The discussion returned to agenda item III. B. 2., James Woodruff's Public Works Report, a copy of which was included in the Board Book. Among other things, Mr. Woodruff reviewed the amount of sod at District owned sites that is being replaced with decorative rock and water wise plants. In 2022, Mr. Woodruff expects the reduction or elimination of outdoor irrigation water use on approximately three acres of grass located at the District's office site and the TLA and the Ford Water Tank sites. KID will seek water conservation grants in 2023 to offset the cost of water conservation landscaping. Assuming that the District would use 1.5 inches of water per square foot of grass, the anticipated water savings this year will be 2.6 million gallons. Trustee Monson stated that he likes the fact that KID is setting a water use example. Mr. Woodruff reported that bids from five prequalified contractors for the 4700 South Sewer Outfall Project were opened on April 22. The low bid of \$14,639,040 was presented by Whitaker Construction. During his presentation, Mr. Woodruff responded to questions from the Trustees.

Consider Check Register:

The March 2022 Check Register, which is a list of all checks issued and ACH withdrawal payments made during the month, was included in the Board Book. Riley Astill and Greg Anderson responded to questions from Chair Hatch respecting specific payments, after which it was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That the March 2022 Check Register be ratified and approved as presented.

The motion carried with Trustees Hatch, Christensen and Monson each voting "aye".

Consider Financial Report:

The monthly Financial Report, which consists of a series of individual reports, including the Statement of Net Position, the Statement of Revenues & Expenses, and the Connection & Population Report, was included in the Board Book. Riley Astill presented a brief overview of the Reports, noting that the District has assets totaling \$149,974,271 in value. He also provided details concerning the District's revenues and expenses for March and year to date, responded to questions from Chair Hatch and Trustee Monson, and addressed a discrepancy in one of the Reports that was noted by Trustee Monson.

Consider Training Requests:

There were no training requests to be considered by the Board.

Consider Purchases/Costs Over \$50,000:

A Memorandum from Mr. Woodruff, respecting an Invoice and Application for Payment presented by Gerber Construction Inc. for work on the Zone D 5MG (million gallon) Tank, was included in the Board Book. Mr. Woodruff recommended that Contractor's Application for

Payment No. 14 presented by Gerber Construction Inc. be approved for payment for work completed and inspected during April in the total amount of \$121,600, less a five percent retention of \$6,080, leaving a net payment amount of \$115,520. None of the Trustees having any questions, it was moved by Trustee Monson and seconded by Trustee Christensen as follows:

That a payment to Gerber Construction be approved in the net amount of \$115,520 for work on the Zone D 5 MG Tank.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Mr. Woodruff then reviewed a payment request from Whitaker Construction Co., Inc., Invoice # 32041, for work on the 6200 South Booster Pump Station that was completed and inspected during April in the total amount of \$1,153,756.11, less a five percent retention of \$57,687.81, leaving a net amount due of \$1,096,068.30. A Memorandum from Mr. Woodruff and a copy of the Invoice were included in the Board Book. Mr. Woodruff noted that approximately half of the cost was for a generator, pumps and other equipment.

It was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That a payment to Whitaker Construction for work on the 6200 South Booster Pump Station be approved in the net amount of \$1,096,068.30.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Finally, Mr. Woodruff reviewed a Memorandum, a copy of which was included in the Board Book, outlining four bids that were received for a new 8,000 gallon double walled above ground fuel tank, having a capacity of 6,000 gallons for diesel fuel and a separate capacity of 2,000 gallons for unleaded fuel. The tank is expected to provide opportunities for the District to save on fuel costs and to provide fuel reserves in the event of an emergency. KID employees will perform limited work on the project, including excavation and pouring concrete slabs. Mr. Woodruff explained that the District will contract out the purchase and installation of the main fuel tank and appurtenances, along with electrical work, footings, block wall work and an electric gate. He recommended that the lowest cost bid, presented by Westech Equipment, be approved in the amount of \$75,449.76. He noted that there was a broad range among the bids, with a high bid of \$146,192.44.

It was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That the bid to supply and install the doubled walled above ground tank be awarded to Westech Equipment in the amount of \$75,449.76.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Consider Bond Releases/Reductions:

There were no bond releases or reductions to be considered by the Board.

Discuss/Consider the Revisions to the KID Approval of Purchases Policy:

Greg Anderson noted that edits to the District's Approval of Purchases Policy prepared by Mark Anderson were included in the Board Book. Greg Anderson explained that the proposed amendments will bring the District's Policy into line with historic practice relative to the approval of payments to the Jordan Valley Water Conservancy District and the Central Valley Water Reclamation Facility, and Mark Anderson provided additional information.

It was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That amendments to the District's Policies and Procedures governing the Approval of Purchases be approved as presented.

The motion carried with Trustees Hatch, Christensen and Monson each voting "aye".

Discuss/Consider the Revisions to the KID Application For Services Form

A redlined copy of the District's Application for Service form, with proposed amendments highlighted, was included in the Board Book. Greg Anderson explained that the amendments will require KID customers to comply with the Jordan Valley Water Conservancy District Water Efficiency Standards and also, on the advice of Mark Anderson, bring the Application for Service in line with statutory requirements.

It was moved by Trustee Monson and seconded by Trustee Christensen as follows:

That amendments to the Kearns Improvement District's Application for Service form be approved as presented.

The motion carried with Trustees Hatch, Christensen and Monson each voting "aye".

Discuss/Consider the Revisions to the KID Request For Letter of Availability for Water and Sewer Services Form:

A redlined copy (with proposed revisions highlighted) of the District's Request for Letter of Availability for Water and Sewer Services form was included in the Board Book. The Trustees and staff briefly discussed the proposed changes. During the discussion, Mark Anderson recommended a few additional minor edits and Trustee Monson expressed a concern about KID becoming the "water police". Mark Anderson was instructed to prepare additional edits and bring the document back to the Board for consideration during a subsequent Board meeting.

Discuss/Consider the Revisions to the KID Bylaws:

A redlined copy of the District's Bylaws, with recommended amendments highlighted, was included in the Board Book. The Trustees and management staff reviewed the proposed amendments. It was agreed that Riley Astill would prepare a list of payment mechanisms that

might be used and management will check with the District's insurance company. Once the desired information has been obtained, the Board will consider revisions to the Bylaws.

Discuss/Consider the Annual Water Quality Report – Reporting Year 2021:

A copy of the Annual Water Quality Report was included in the Board Book. Greg Anderson explained some of the federal water quality requirements that are applicable to KID. During a back and forth discussion between the Trustees and Greg Anderson, Mr. Anderson responded to questions and stated that, after the Board has approved the Water Quality Report, the Report will be posted.

It was moved by Trustee Monson and seconded by Trustee Christensen as follows:

That the Annual Water Quality Report for reporting year 2021 be approved as presented.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Discuss/Consider the Award of Bid and Issuance of the Notice to Proceed for the 4700 South Sewer Outfall Line Project:

A Memorandum from James Woodruff respecting 4700 South Sewer Outfall Line Project bids was included in the Board Book. Five prequalified contractors submitted bids. The low bid of \$14,639,040 was submitted by Whitaker Construction. The highest bid totaled \$21,878,865. Mr. Woodruff recommended that the contract be awarded to Whitaker Construction. It was moved by Trustee Christensen and seconded by Trustee Monson as follows:

That a contract be awarded to Whitaker Construction for the construction of the 4700 South Sewer Outfall Line Project in the amount of \$14,639,040, that the General Manager be authorized to sign the contract documents, and that a Notice to Proceed be issued.

The motion carried with Trustees Hatch, Christensen and Monson each voting “aye”.

Discuss/Consider the Cottonwood Improvement District Cooperative Agreement:

A discussion concerning the Cooperative Agreement between KID and the Cottonwood Improvement District (“CID”) was included in the Board Book. Pursuant to the Cooperative Agreement, KID will relocate CID's eight inch sanitary sewer line, including acquiring new easements and paying for the installation of the sewer line, in return for which CID will abandon a portion of its sewer line to enable KID to install a major sewer outfall line. Mr. Woodruff and Mark Anderson will continue to work on the Cooperative Agreement and bring it back to the Board for further consideration.

Discuss/Consider processing accounts payable payments electronically through a third-party vendor:

A Memorandum from Riley Astill, recommending that the District look into a service that will process payments to KID's vendors electronically, rather than continuing to print and mail paper checks, was included in the Board Book. Paymerang is one entity that provides that service. A document outlining services provided by Paymerang was included in the Board Book. Paymerang would receive a portion of the Visa transaction fees collected from vendors that choose to be paid via a virtual credit card, but there would be no cost to KID. Riley Astill discussed internal controls and payment alternatives. At the end of the discussion, the Trustees expressed approval for Mr. Astill to continue to investigate using a third party to process payments to KID's vendors.

Consider Closed Meeting – Discuss the Character and Professional Competence of an Individual(s):

It was moved by Trustee Monson and seconded by Trustee Christensen as follows:

That the meeting be closed to discuss the character and professional competence of an individual.

The motion carried with Trustees Hatch, Christensen and Monson each voting "aye". Chair Hatch declared the Board meeting to be closed at 7:56 p.m. The closed session was held in the Board room, with Trustees Hatch, Christensen and Monson, along with Greg Anderson, Riley Astill, James Woodruff, Mark Anderson and Jamie Banh, remaining in the closed session.

Chair Hatch declared the meeting to again be open at 8:09 p.m. No action was taken during the closed portion of the meeting other than the approval of a motion to end the closed session and return to open meeting that was made by Trustee Monson and seconded by Trustee Christensen.

Central Valley Water Reclamation Facility:

A copy of the agenda for the April 27, 2022 meeting of the Central Valley Water Reclamation Facility Board was included in the Board Book. Trustee Monson, who is KID's representative on the Central Valley Board, reported that a number of Central Valley employees were recognized with awards at the recent WEAU (Water Environment Association of Utah) Conference; provided an update regarding Capstone Strategies lobbying work to obtain money for wastewater projects; provided a capital projects update (including value engineering to get the cost of a new biosolids dewatering building closer to the budget amount); and provided information relative to the land application of biosolids.

Jordan Valley Water Conservancy District:

A copy of the May 11, 2022 Jordan Valley Water Conservancy District Board meeting agenda was included in the Board Book. Trustee Christensen reported concerning an upcoming public hearing, after which Jordan Valley's tentative wholesale and retail water rates will be set,

noting that KID's wholesale water rate will increase by 3.8%, compared to an average increase of 2.5%, and that Jordan Valley is trying to equalize its wholesale water rates. A new Water Purchase Agreement between KID and Jordan Valley will be considered by the Jordan Valley Board during its May 11 meeting. Finally, Trustee Christensen reported on an overhaul of Jordan Valley's Water Treatment Plant located in Herriman that will enable the Plant to treat significantly more water.

Utah Association of Special Districts:

A copy of the agenda for the Utah Association of Special Districts Board meeting held on May 5, 2022 was included in the Board Book. Greg Anderson, who serves on the UASD Board, explained his role with the National Special Districts Coalition coordinating the activities of fire protection and water service providers. Federal grant money is being sought to assist with fighting wild fires where the infrastructure is inadequate. In that regard, Greg Anderson reported that he had a very positive meeting with the Unified Fire Authority Chief. Mr. Anderson recommended that training dealing with preparing and presenting grant applications and coordination between fire districts and water districts be provided during this year's UASD Convention.

Kearns Metro Township Council:

A copy of the agenda for the May 9, 2022 Kearns Metro Township Council meeting was included in the Board Book. Chair Hatch noted that the Metro Township Council is now meeting in person at the Kearns Library. An automated warehouse that will be 75 to 100 feet tall has been proposed for the Camp Kearns area. Local residents have come out in opposition to the proposal. The Unified Fire Authority will hold a pancake breakfast on June 4. Chair Hatch also discussed a flag retirement ceremony and the availability of landfill vouchers.

Kearns Community Council:

A copy of the agenda for the May 3, 2022 Kearns Community Council Executive Meeting was included in the Board Book. Trustee Monson provided a brief overview of Community Council activities and interests and reported that the Community Council's trailer, including all of its contents, was stolen.

Chamber West – Legislative Committee:

A copy of the agenda of the May 5, 2022 Chamber West Legislative Affairs Committee meeting was included in the Board Book. Linda Cook has resigned so, going forward, Greg Anderson will chair the Committee.

National Special Districts Coalition:

Greg Anderson shared National Special Districts Coalition information dealing with water infrastructure needed for firefighting earlier during the meeting, and additional information was included in the Board Book.

Trustee Per Diem Report:

A copy of the April 2022 Trustee Per Diem Report was included in the Board Book.

Adjourn:

There being no further business to come before the Board, Chair Hatch declared the meeting to be adjourned at 8:37 p.m.

4864-6484-1760, v. 1